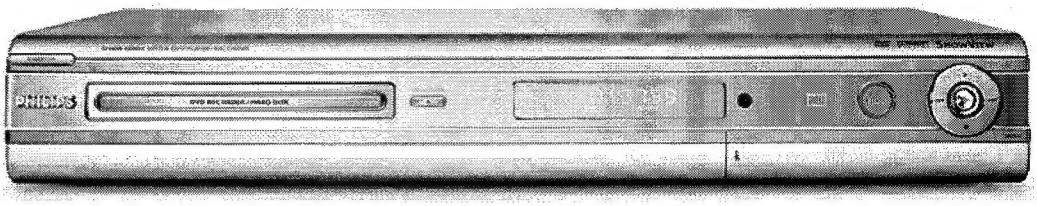
HDD & DVD Recorder

DVDR5350H & DVDR7300H

DVDR5350H/02/19 & DVDR7300H/02/05/19

Service
Service
Service



Service Instruction

CLASS 1
LASER PRODUCT

RW
DVD + ReWritable

DVD VIDEO

COMPACT disc DIGITAL VIDEO

COMPACT disc DIGITAL AUDIO

Contents **Page**

1	Technical Specifications and Connection Facilities	2
2	Test Disc & Repair Hints	5
3	Firmware Upgrading	6
4	Service Flow chart	7
5	Directions For Use	12

The 2005 range DVD Recorder products are repaired centrally.
Defective sets must be identified, labelled and stored for pick-up.
This document gives full instructions for a functional check.
Technical information to repair faulty sets is therefore not provided in this document.

To test in-coming sets the following must be performed:
1. Verify / Reproduce the customer's problem
2. Verify that set has latest Firmware (see chapter 3) and upgrade if it is not the latest version.
3. Full functional check

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Version 1.0

PHILIPS

1. Technical Specifications and Connection Facilities

1.1 General:

Mains voltage	:	220V – 240V
Mains frequency	:	50 Hz
Power consumption (record)	:	40 W
Standby Power Consumption	:	< 4 W
Eco standby	:	< 3 W

1.2 RF Tuner

Test equipment: Fluke 54200 TV Signal generator
Test streams: PAL BG Philips Standard test pattern

1.2.1 System

PAL B/G, PAL D/K, SECAM L/L', PAL I

1.2.2 RF - Loop Through:

Frequency range	:	45 MHz – 860 MHz
Gain: (ANT IN - ANT OUT)	:	-6dB to 0dB

1.2.3 Receiver:

PLL tuning with AFC for optimum reception

Frequency range	:	45.25 MHz – 857 MHz
Sensitivity at 40dB S/N (video unweighted)	:	≤ 60dBµV at 75 Ω

1.2.4 Video Performance:

Channel 25 / 503,25 MHz,
Test pattern: PAL BG PHILIPS standard test pattern,
RF Level 74dBV, Measured on SCART 1

Frequency response	:	0.1 MHz – 4 MHz ± 3dB
Group delay (0.1 MHz - 4.4 MHz)	:	0 nsec ± 150 nsec

1.2.5 Audio Performance:

Audio Performance Analogue - HiFi:

Frequency response at SCART 1 (L+R) output	:	100 Hz – 12 kHz / 0 ± 3dB
S/N Ratio (20Hz – 20kHz) unweighted	:	≥ 50dB
Harmonic distortion (1 kHz, ± 25 kHz deviation)	:	≤ 1.5%

Audio Performance NICAM:

Frequency response at SCART 1 (L+R) output	:	40 Hz – 15 kHz / 0 ± 3dB
S/N Ratio (20Hz – 20kHz) unweighted	:	≥ 60dB
Harmonic distortion (1kHz, ± 25 kHz deviation)	:	≤ 0.5%

1.2.6 Tuning

Automatic Search Tuning

Scanning time without RF signal	:	3min. typical
Stop level (vision carrier)	:	≥ 37dB/µV
Maximum tuning error of a recalled program	:	± 100 kHz
Maximum tuning error (drift) during operation	:	± 100 kHz

Tuning Principle:
Automatic B, G, I, DK and L/L' detection
Manual selection in "STORE" mode

1.3 Analog Inputs / Outputs

1.3.1 SCART 1 (Connected to TV)

Pin Signals:

1	Audio-out R	1.8V RMS
2	Audio-in R	
3	Audio-out L	1.8V RMS
4	Audio GND	
5	Blue / Chroma GND	
6	Audio-in L	
7	Blue-out	0.7Vpp ± 0.1V into 75Ω
8	Function switch	< 2V = TV > 4.5V / < 7V = asp. Ratio 16:9 DVD > 9.5V / < 12V = asp. Ratio 4:3 DVD
9	Green GND	
10	P50 control	not use
11	Green out	0.7Vpp ± 0.1V into 75Ω
12	NC	
13	Red / Chroma GND	
14	Fast switch GND	
15	Red-out / Chroma-out	0.7Vpp ± 0.1V into 75Ω 300mVpp ± 3dB
16	Fast switch RGB / CVBS or Y out	< 0.4V into 75Ω = CVBS >1V / < 3V into 75Ω = RGB
17	Y/CVBS-out GND	
18	CVBS-in GND	
19	CVBS-out / Y-out	1Vpp ± 0.1V into 75Ω
20	CVBS-in	
21	Shield	

1.3.2 SCART 2 (Connected to AUX)

Pin Signals:

1	Audio-out R	1.8V RMS
2	Audio-in R	
3	Audio-out L	1.8V RMS
4	Audio GND	
5	Blue / Chroma GND	
6	Audio-in L	
7	Blue-in	
8	Function switch	
9	Green GND	
10	P50 control	
11	Green-in	
12	NC	
13	Red / Chroma GND	
14	Fast switch GND	
15	Red-in / Chroma-in	
16	Fast switch RGB / CVBS or Y in	
17	CVBS-out GND	
18	Y / CVBS-in GND	
19	CVBS-out	1Vpp ± 0.1V into 75Ω
20	CVBS-in / Y-in	
21	Shield	

1.3.3 Audio/Video Front Input Connectors

Audio - Cinch

Input voltage	:	2.2Vrms
Input impedance	:	> 10kΩ

Video - Cinch

Input voltage	:	1Vpp ± 3dB
Input impedance	:	75Ω

Video - YC (Hosiden)

According to IEC 933-5
Superimposed DC-level on pin 4 (load > 100kΩ)
< 2.4V is detected as 4:3 aspect ratio
> 3.5V is detected as 16:9 aspect ratio

Input voltage Y	:	1Vpp ± 3dB
Input impedance Y	:	75Ω
Input voltage C	:	300mVpp ± 3dB
Input impedance C	:	75Ω

1.3.4 Out 1

Component Video Cinch Y/Pb/Pr
according EIO-770-I-A, EIA-770-2

Audio - Cinch

Output voltage	:	2Vrms max.
Output impedance	:	> 10kΩ

1.3.5 Out 2

Audio - Cinch

Output voltage	:	2Vrms max.
Output impedance	:	> 10kΩ

Video - Cinch

Output voltage	:	1Vpp ± 3dB
Output impedance	:	75Ω

Video - YC (Hosiden)

According to IEC 933-5
Superimposed DC-level on pin 4 (load > 100kΩ)
< 2.4V is detected as 4:3 aspect ratio
> 3.5V is detected as 16:9 aspect ratio

Output voltage Y	:	1Vpp ± 3dB
Input impedance	:	75Ω
Output voltage C	:	300mVpp ± 3dB
Input impedance	:	75Ω

1.4 Digital Inputs / Outputs

1.4.1 Digital Output

Digital Audio – Coaxial / Optical

LCM	:	according IEC 60958
MPEG 1, MPEG 2, AC3	:	according IEC 61937
DTS	:	according IEC 61937 + addendum

1.4.2 HDMI Output

Type A connector (19 pins)

1.4.3 Digital Video Input (IEEE 1394)

Implementation Standard according:
IEEE Std 1394-1995
IEC61883 - Part1
IEC61883 - Part 2 SD-DVCR (02-01-1997)

Specification of consumer use digital VCR's using 6.3mm magnetic tape – dec.1994
Mechanical connection according to Annex of IEC 61883-1

1.4.4 G-Link (for IR-remote transmitting device)

Output voltage	:	5 ± 0.5V (high level) 0.4 ± 0.3V (low level)
Output impedance	:	150Ω

1.5 Video Performance

All outputs loaded with 75Ω
SNR measurements over full bandwidth without weighting.

1.5.1 SCART (RGB)

SNR	:	≥ 55dB on all output
Bandwidth	:	4.8MHz -3dB

1.6 Audio Performance

1.6.1 Cinch Output Rear

Output voltage 2 channel mode	:	2Vrms ± 2dB
Channel unbalance (1kHz)	:	< 0.22dB
Crosstalk 1kHz	:	> 100dB
Crosstalk 16Hz-20kHz	:	> 87dB
Frequency response 20Hz-20kHz	:	± 0.5dB
Signal to noise ratio (unweighted)	:	> 85dB
Dynamic range 1kHz	:	> 83dB
Distortion and noise 1kHz	:	> 83dB
Distortion and noise 16Hz-20kHz	:	> 75dB
Intermodulation distortion	:	> 70dB
Mute	:	> 95dB

1.6.2 Scart Audio

Output voltage 2 channel mode	:	1.6Vrms ± 2dB
Channel unbalance (1kHz)	:	< 1dB
Crosstalk 1kHz	:	> 85dB
Crosstalk 16Hz-20kHz	:	> 70dB
Frequency response 20Hz-20kHz	:	± 0.5dB
Signal to noise ratio (unweighted)	:	> 80dB
Dynamic range 1kHz	:	> 75dB
Distortion and noise 1kHz	:	> 75dB
Distortion and noise 16Hz-20kHz	:	> 50dB
Intermodulation distortion	:	> 70dB
Mute	:	> 80dB

1.7 Dimensions and Weight

Height of feet	:	5.5mm
Apparatus tray closed	:	WxDxH:435x335x76mm
Apparatus tray open	:	WxDxH:435x472x76mm
Weight without packaging	:	5kg
Weight with packaging	:	8kg

1.8 Laser Output Power & Wavelength

1.8.1 DVD

Output power during reading	:	0.8mW
Output power during writing	:	20mW
Wavelength	:	650nm

1.8.2 CD

Output power	:	0.3mW
Wavelength	:	780nm

1.9 Read / Write Speed

Type of Disc (Function)	Disc Rotation Speed
Read Speed CD	7X CAV
Read Speed DVD	4X CAV
Write Speed DVD+R/+RW	2.4X ZCAV
Write Speed DVD-R/-RW	2X

1.10 Commercial Difference

	DVDR5350H	DVDR7300H
HDD capacity	160GB	250GB
HDMI	–	x

1.11 Playability

		DVDR5350H	DVDR7300H
Video Playback			
1.	Disc Media: CD-R/-RW, MP3-CD, VCD/SVCD, DVD-Video, DVD+R/+RW, DVD-R/-RW	x	x
2.	Compression Format: MPEG1, MPEG2	x	x
Audio Playback			
1.	Disc Media: CD, CD-R/-RW, MP3-CD	x	x
2.	Compression Format: Dolby Digital, MP3, MPEG2 Multi-channel, PCM	x	x
3.	MP3 bit rates: 32-256 kbps and VBR	x	x
Still Picture Playback			
1.	Disc Media: Picture CD	x	x
2.	Picture Compression Format: JPEG	x	x

2. Test Disc & Repair Hints

2.1 Test Disc

1)	7104 099 96611	CD-RW printed Audio Disc
2)	9965 000 25728	DVD Player Test Pack
3)	-	Blank DVD+RW
4)	-	Blank DVD-RW

2.2 Open the DVD Tray manually

Note: This procedure needs to be performed on condition that:
- **a customer's Disc is jammed in the DVD Tray**
- **the DVD Tray cannot be open via the normal open/close button on the set.**

1) Place the set on the table with the bottom faced upwards as shown below.
2) Insert a screw driver into the slot and open the DVD Tray by sliding the screw driver in the direction shown.

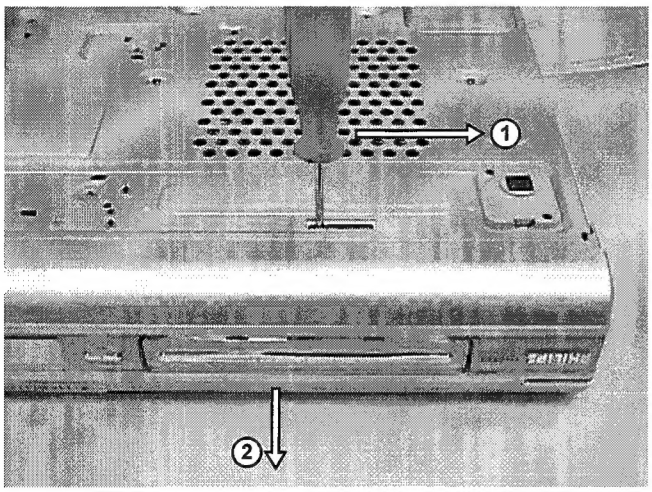


Figure 2-1

3. Firmware Upgrading

3.1 Firmware Upgrading

A. Preparation to upgrade firmware:

1. Unzip the zip-archive file
2. Start the CD Burning software and create a new CD project (data disc) with the following settings:
   File system : Joliet
   Format : MODE 2: CDROM XA
   Recording mode : SINGLE SESSION (TRACK-AT-ONCE), FINALIZED CD

   Note: Long file name is necessary for the preparation of the upgrade disc

3. Place the content of the zip-archive into the root directory of the new CD project.
4. Burn the data onto a blank CDR or CD-RW

B. Procedure to apply the firmware upgrade:

1. Hold the <Record> + <Next> buttons down and Power up the set.
2. The tray opens and set will display:

   DOWNLOAD ->.....INSERT DISC

3. Insert the prepared Upgrade CDROM and close the tray.
4. The set will display:

   INIT DISC -> DOWNLOAD ->.....
   The whole process takes less than 10 minutes
   Note: Do not press any buttons or interrupt the mains supply during the upgrading process, otherwise the set may becomes defective.

5. When the upgrade is completed the tray will open automatically and the set will display:

   REMOVE DISC

6. Close the tray and the set will display:

   DONE

7. The set will go into Standby mode.

C. How to read out the firmware version to confirm set has been upgraded:

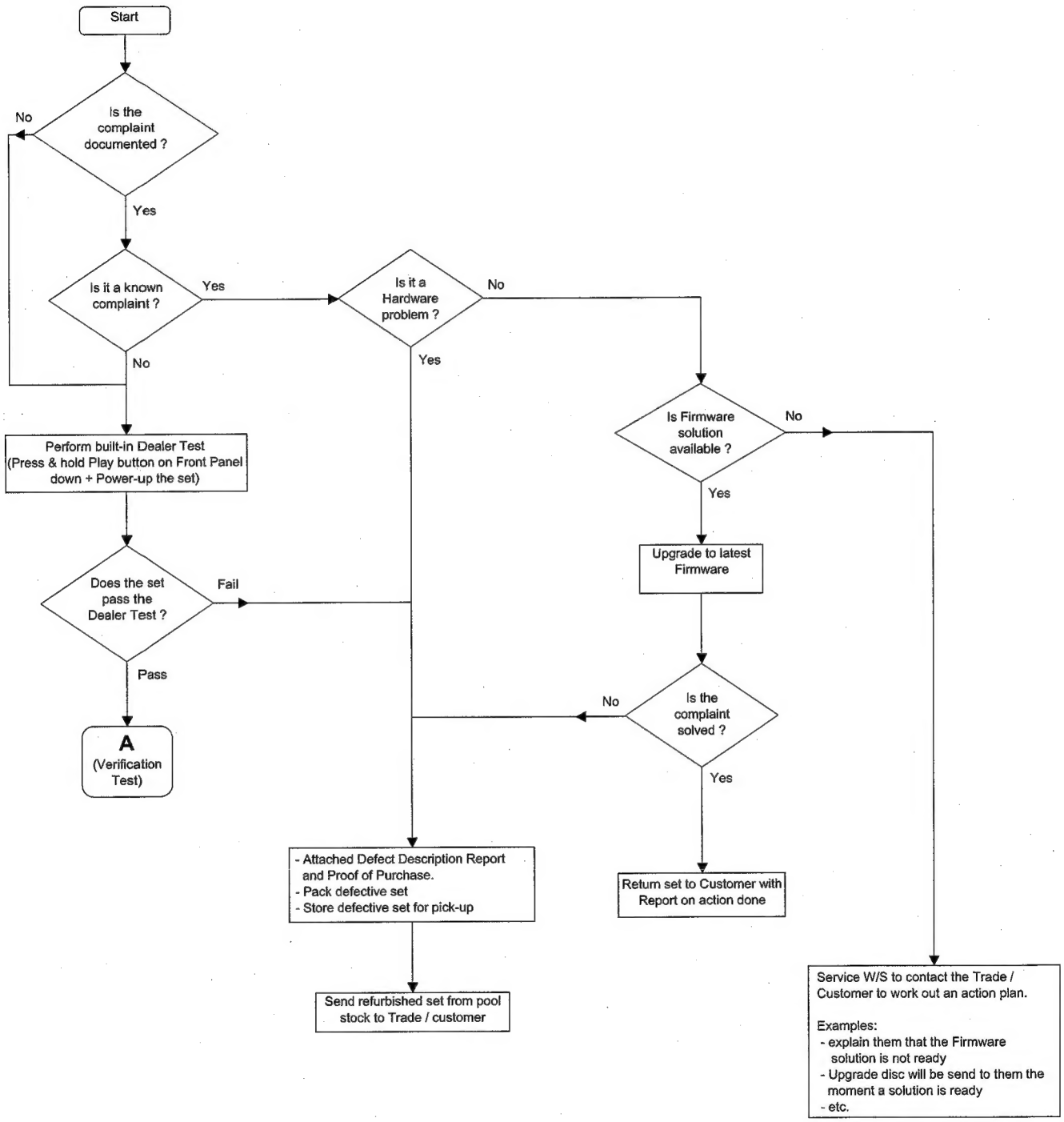
1. Power up the set.
2. Press <System> button on the Remote control and select {Setup} option
3. Press <Right> button to select {System}
4. The set will prompt you about clearing the Time Shift Buffer
5. Select {Yes} and press <OK> button
6. Press <Down> button several times to select {Version info}
7. Press <OK> button
8. The TV connected to the set will display:

   DIF05_5/56299AN SV11201
   BE 43.2.13 ASP1,18,1,10FP
   SIT5300-FNAC6-S3_299-F536_B1
   20050909-1857 dev sxc
   EPG:DPMS:P_DPM

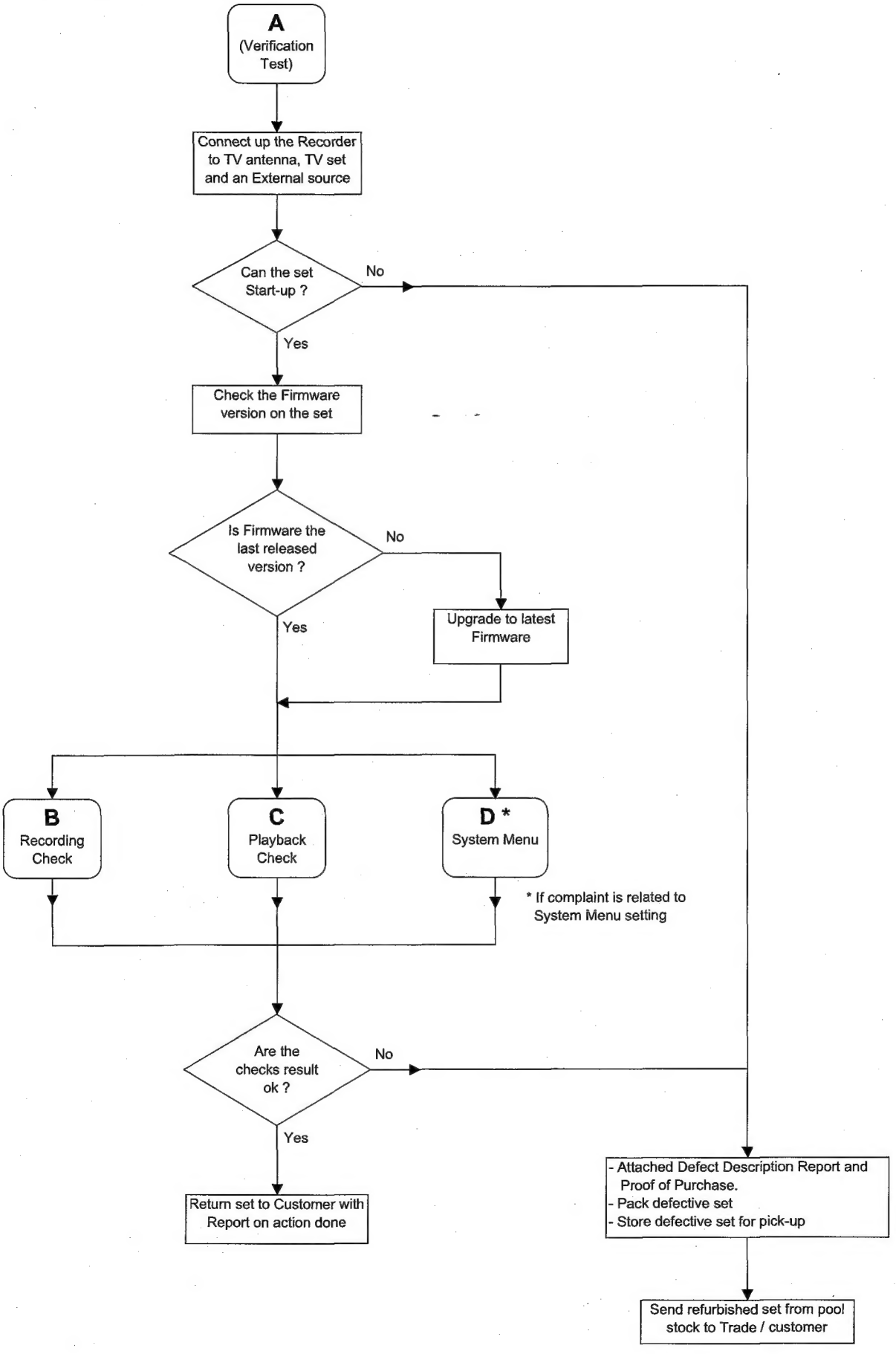
9. Press <System> button to exit

4. Service Flow Chart

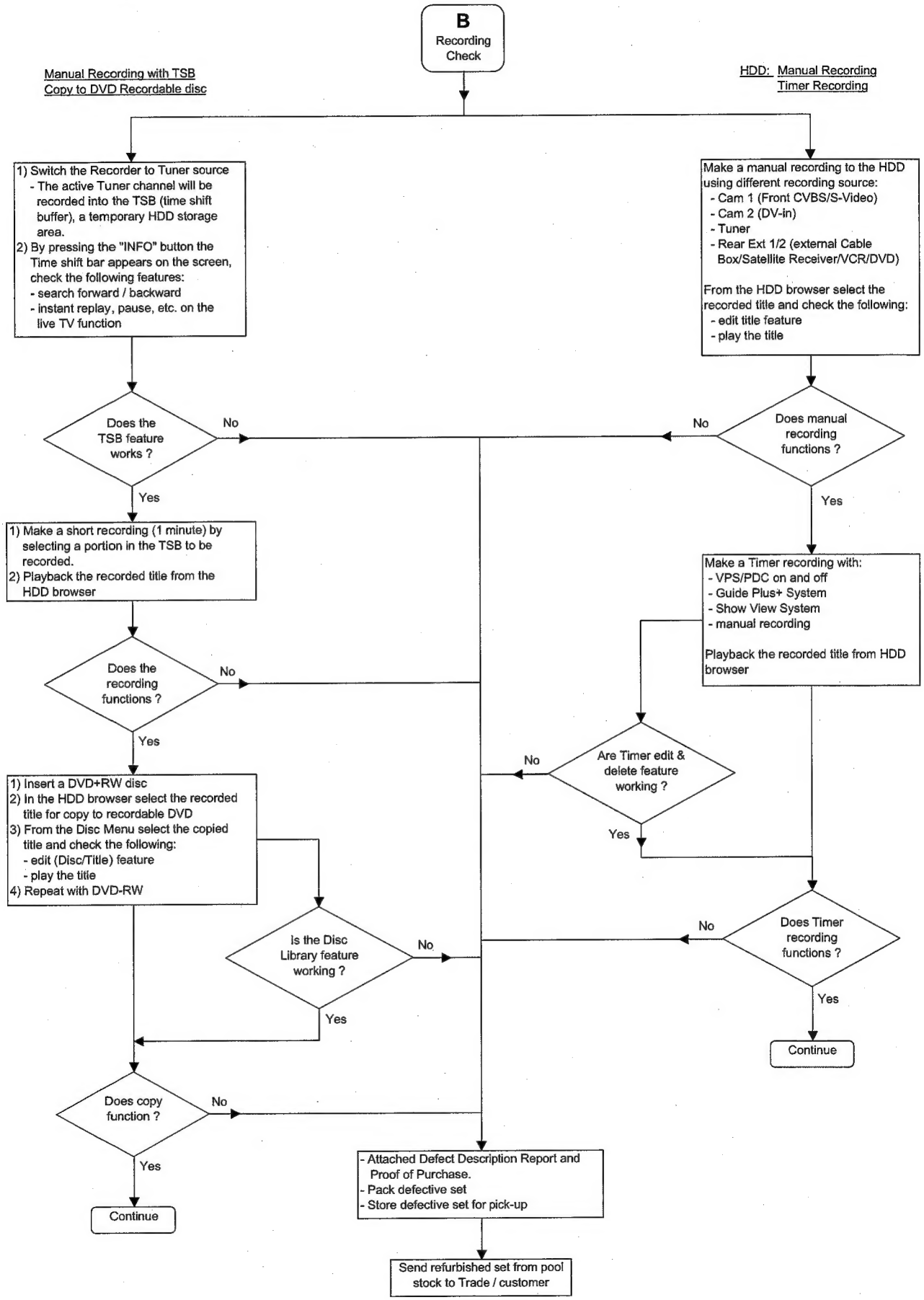
4.1 Start Process



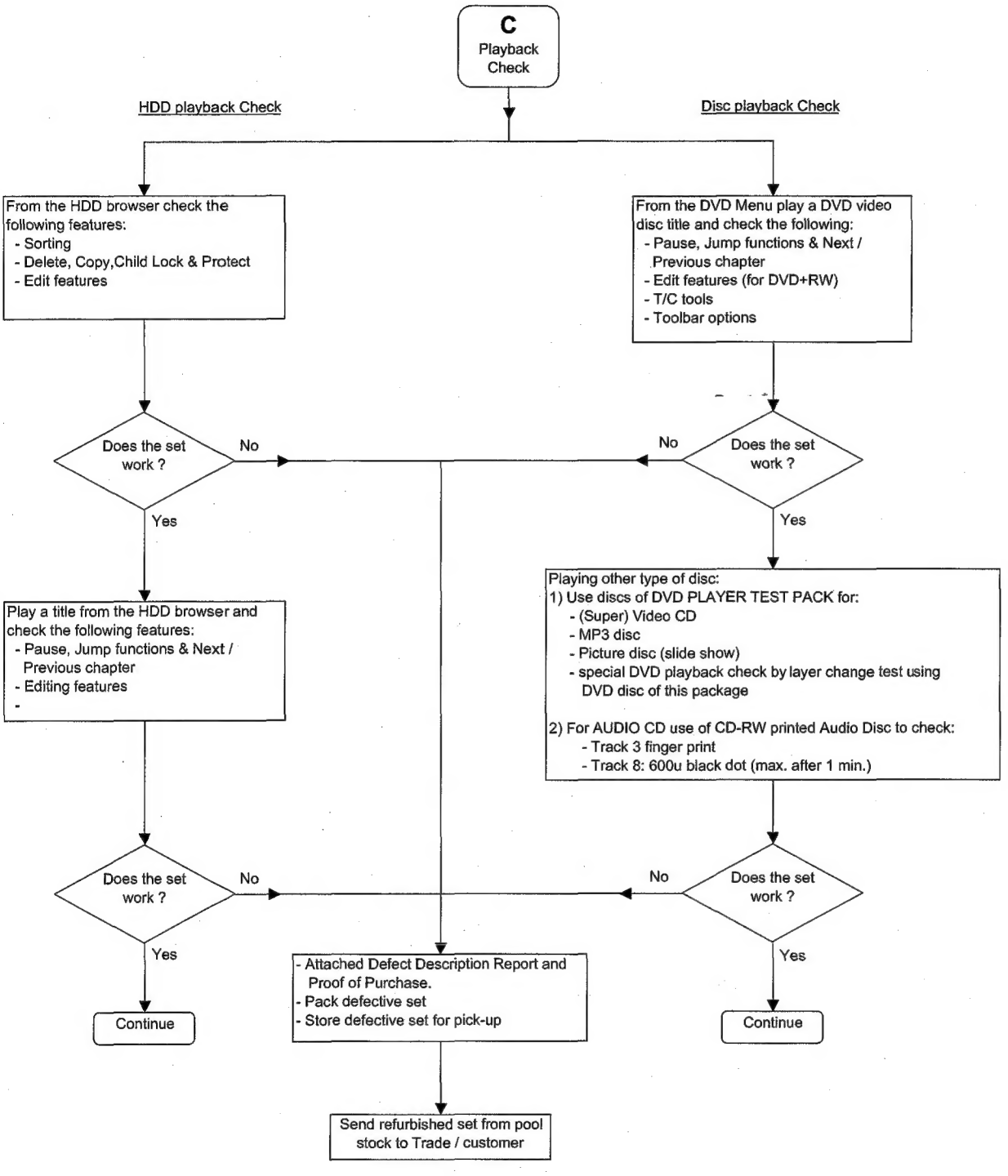
4.2 Verification Process



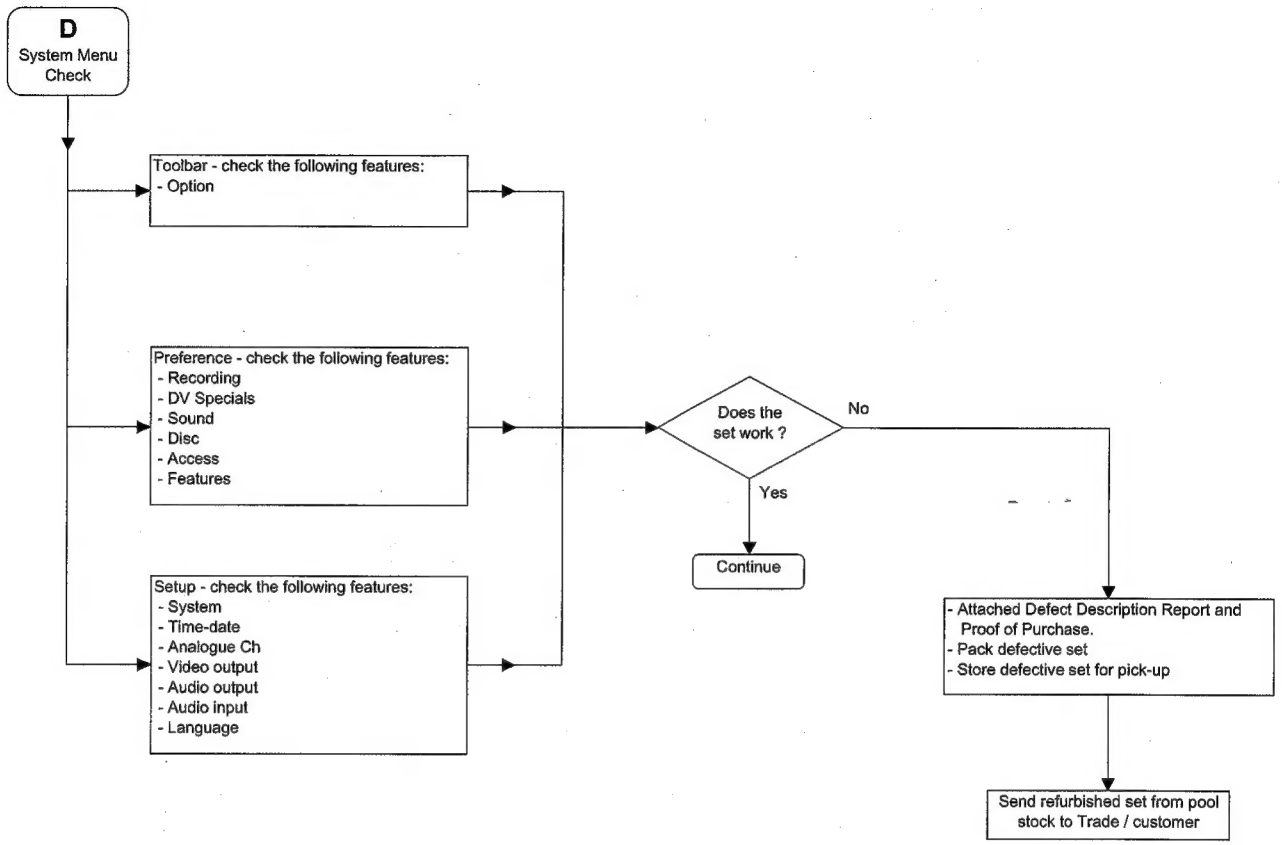
4.3 Recording Process



4.4 Playback Process



4.5 System Menu Process

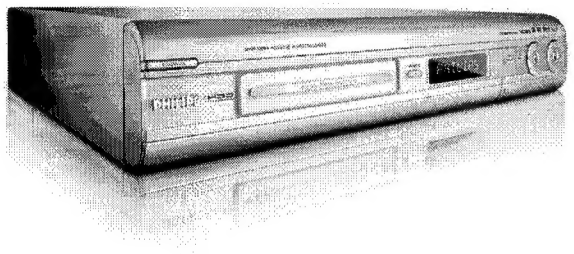


5. Directions For Use

The following except of the Quick Use Guide serves as an introduction to the set.
The Complete Direction for the Use can be downloaded in different languages from the internet site of Philips Customer care Center: **www.p4c.philips.com**

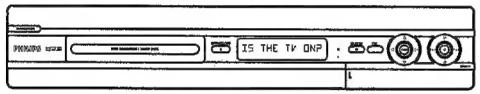
HDD & DVD Player / Recorder DVDR 7300H

Quick Start Guide

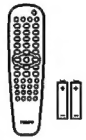


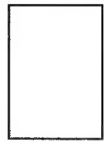
1 Connect
2 Set up
3 Enjoy

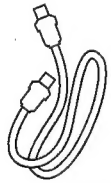
What's in the Box

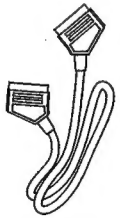


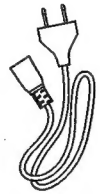
DVD recorder/hard disk

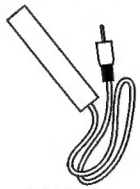

Remote control and 2 batteries

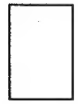

Quick start guide


RF coaxial cable


Scart cable


Power cable


G-LINK cable & transmitter


User manual

PHILIPS

1 Connect

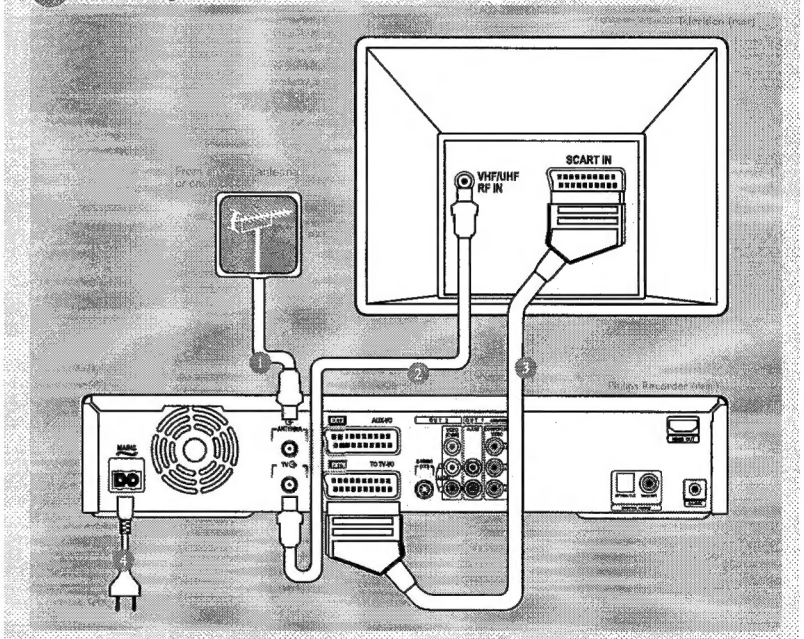
Start with the 'Basic connection'.
If you have a VCR, follow the instructions for 'Connection with VCR or similar device'.
If you have a set-top box, follow the instructions for 'Connection with set-top box'.

Basic connection

A Before connecting

Unplug the antenna cable that is currently connected to your TV.

B Connecting



1. Disconnect the antenna cable from your TV and connect it to the ANTENNA socket on this recorder.
2. Use the supplied RF coaxial cable to connect the TV socket on this recorder to the Antenna In socket on your TV.
3. Use the supplied scart cable to connect the EXT1 TO TV-I/O Scart socket on this recorder to the SCART IN socket on your TV.

   Note See the accompanying user manual for others possible connection (e.g. HDMI, Component Video).
4. Connect the power cable from the recorder to an AC power outlet.

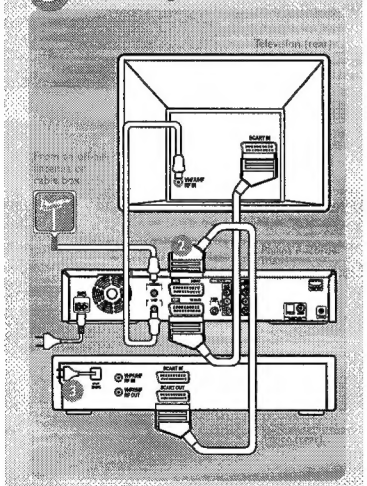
2 Set up

Connection with VCR or similar device

A Before connecting

Your new Philips Recorder replaces the VCR for your recording needs. First, unplug all the connections from your VCR.

B Connecting



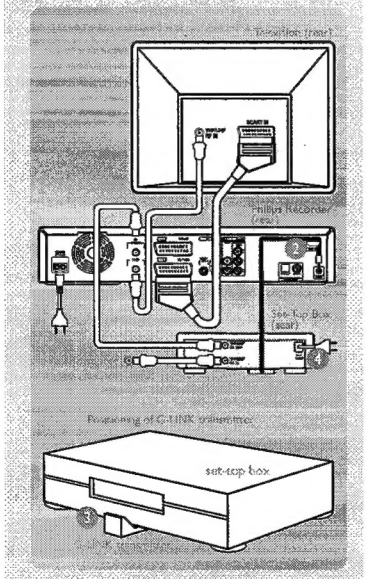
1. Follow step 1 to 4 of 'Basic connection' to connect this recorder before you proceed to step 2 below.
2. Use another scart cable (not supplied) to connect the EXT2 AUX-I/O Scart socket on this recorder to the SCART OUT socket on your VCR.
3. Connect the power cable from the VCR to an AC power outlet.

Note In this setup, the VCR cannot record TV programmes.

Connection with set-top box

Your new Philips Recorder provides a G-LINK transmitter which allows you to control the tuner of the set-top box (satellite receiver, cable TV box) through the GUIDE Plus+ system. You can record the TV programmes that are received through the set-top box.

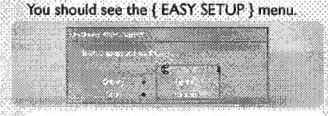
Connecting



1. Follow step 1 to 4 of 'Basic connection' to connect this recorder before you proceed to step 2 below.
2. Connect the supplied G-LINK cable to the G-LINK socket on this recorder.
3. Place the G-LINK transmitter in front of your set-top box in such a way that it can acquire the signal broadcasted by the transmitter.
4. Connect the power cable from the set-top box to an AC power outlet.

A Finding the viewing channel

1. Press **STANDBY-ON** on the recorder. The recorder will display 'IS THE TV ON?'.
2. Switch on the TV. You should see the { EASY SETUP } menu.



Note If connected to your VCR, make sure it is turned off before proceeding.

3. If not, press the Channel Down button on your TV's remote control repeatedly (or AV, SELECT button) until you see the menu. This is the correct viewing channel for the recorder.

B Start basic setup

Use the recorder's remote control and follow the on-screen instructions to complete the installation.

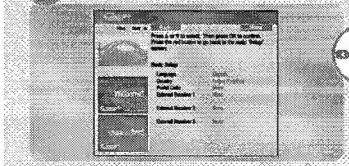
1. Select the desired menu language, your country and the TV shape.

   Note Select { **Done** } in the menu and press OK to go to the next screen.

2. Activate automatic channel search.
3. Check the date and time and press OK.
4. To continue with the GUIDE Plus+ installation, select { Continue } and press OK.

   Otherwise, select { Do not install now } and press OK. Wait until the recorder has finished initialising the system, then press OK again.

C Install the GUIDE Plus+ system



1. Enter your language, country and postal code. To change, press OK and follow the on-screen instructions.

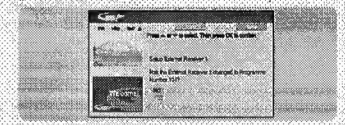
D Install the set-top box

If you do not have a set-top box, skip '**D**' and go to '**E**'.

1. Press **DOWN** ▼ to select 'External Receiver 1' and press OK.
2. Press OK again to continue.
3. Select the type of reception, service provider and brand name of the connected set-top box.

   Note Press OK to go to the next screen. Select { None } if none of the entries are applicable.

4. Select the recorder socket through which your set-top box is connected (e.g. 'EXT2' for EXT 2 AUX-I/O socket) and press OK.
5. Turn on your set-top box and select channel number **02** on the set-top box.
6. Read the instructions on the TV and press OK.



7. The recorder will now attempt to change the set-top box's channel through the G-LINK transmitter. If the set-top box has switched to the same programme number as displayed on the TV, select { Yes } in the menu and press OK.

   Note If not, select { No } and press OK to try a different code.

8. Your set-top box is now installed.

E Load the TV listing data

1. Press the **GREEN** ● button to leave the menu.

   Note To switch the GUIDE Plus+ system's host channel manually, go to { Host Channel Setup }.

2. Press **GUIDE** to exit the GUIDE Plus+ system. Leave the recorder in 'standby' mode and turn 'on' the set-top box overnight to collect the TV listing data, this may take up to 24 hours.

   Note If you tune to your Host Channel before going to 'standby' mode, this recorder will start immediately to download the TV listings data.

3. Check the { Editor } screen the next day to ensure the source and programme numbers are matching for all channels.

3 Enjoy

Watch TV - Pause live TV

Your Philips Recorder allows you to control the TV programme. You can PAUSE it as if you were in control of the live broadcast.

1. Turn on your recorder and press **CHANNEL +/−** to select a TV programme.
2. Press **PAUSE** ⏸ to suspend it.
3. Press **PLAY** ▶ to continue.

Note When the recorder is turned on, the programme you are watching will be stored in the temporary hard disk storage. When you switch the recorder to another input signal (e.g. CAM) or to standby mode, the programme will be erased.

4. Press **TUNER** to return to the live broadcast.

Record to hard disk

A Contents in the temporary HDD storage

1. Press **INFO** ⓘ to see what is temporarily stored in the hard disk storage.
2. Press **UP** ▲ or **DOWN** ▼ to choose the title you want to record.
3. Press **REC** ⏺ to record the title.

Note The title will be marked in red and the recording will only take effect when you turn off the recorder.

B Current TV programme

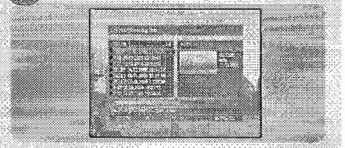
1. Press **REC** ⏺ to start recording. It can record up to 6 hours.

Note To set the recording time, press **REC** ⏺ repeatedly to extend the recording time in 30 minutes increments for up to 6 hours.
If the GUIDE Plus+ system is available, 'Record 1 program' is displayed and the current programme will be recorded.

2. Press **STOP** ⏹ to stop the recording immediately.

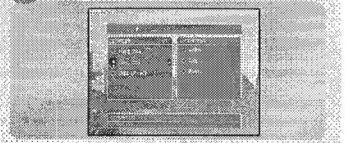
Start playback

A From the hard disk

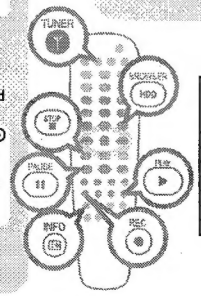


1. Press **HDD-BROWSER** ⓗ, then press **RIGHT** ▶ until you see the { TITLES } and { INFO } menus.
2. Press **UP** ▲ or **DOWN** ▼ to select a title.
3. Press **PLAY** ▶ to start playback.

B From a disc



1. Hold down the **STOP** ⏹ until the disc tray opens, load in a disc and close the disc tray.
2. If the content menu appears, press **RIGHT** ▶ until you see the { TITLES }, { TRACKS } or { PHOTO ROLLS } menu, depending on the disc type.
3. Press **UP** ▲ or **DOWN** ▼ to select a title.
4. Press **PLAY** ▶ to start playback.



Record Mode	Hours of recordings can be stored on the HDD or an empty DVD recordable disc.		
	HDD (250 GB)	DVD+R/ DVD±RW	DVD+R Double Layer
HQ	47	1	1hr 55mins
SP	95	2	3hr 40mins
SPP	119	2.5	4hr 35mins
LP	143	3	5hr 30mins
EP	191	4	7hr 20mins
SLP	287	6	11h 05mins
SEP	400	8	14h 45mins

Using the GUIDE Plus+ system

Make sure that the TV listing data download is completed.

A Record TV programmes

1. Press **GUIDE** ⓖ.
2. Press **DOWN** ▼ to select a TV channel.

Note Press the **YELLOW** button to see an overview of all the available channels and choose from there.

3. Press **RIGHT** ▶ or **LEFT** ◀ to select a TV programme.

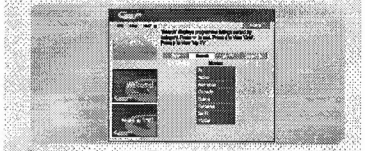
Note Press **DAY-** ⊖ or **DAY+** ⊕ to go directly to a day before or the next day TV listings.

4. Press the **RED** button to set the highlighted programme for recording.

Note You can store up to 25 programmes for recording.

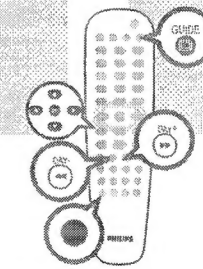
B Search TV programmes

1. Press **UP** ▲ until you highlight the menu bar ('Grid', 'Search', 'My TV', etc.)
2. Highlight { Search } and press **DOWN** ▼.
3. Press **RIGHT** ▶ or **LEFT** ◀ to select a search category and press **DOWN** ▼.



4. Press **DOWN** ▼ to select a sub-category and press **OK** to start the search.

Note If 'No programme found' appears, that means there are no programmes of that category for that day.



Need help?

GUIDE Plus+ system

Go to www.europe.guideplus.com

User Manual

See the user manual that came with your Philips Recorder

Online

Go to www.philips.com/support

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